

CLAIMS

1. A data processing apparatus for processing data for respective pages, comprising:

5 a data reception unit for receiving at least data of a first format for respective pages;

a data conversion unit for converting the data of the first format into data of a second format;

10 a page data management unit for managing the data of the first and second formats in first and second page data in association with each other; and

a control unit for monitoring a storage state of the data of the first format in a memory, and permitting a predetermined process for the data of the first format in accordance with the storage state.

15 2. The apparatus according to claim 1, wherein said control unit further determines whether or not the data received by said data reception unit is the data of the second format, and wherein when the received data is the data of the second format, a conversion operation of said data conversion unit is stopped.

20 3. The apparatus according to claim 1 or 2, wherein when said control unit determines that storage of the data of the first format in the memory is complete, said control unit permits said data conversion unit to start a data conversion operation from the first format to the second format.

4. The apparatus according to claim 3, wherein
said control unit monitors completion of the conversion
operation of said data conversion unit and a storage
state of the data of the second format in the memory,
5 and permits a predetermined process for the data of the
second format in accordance with the storage state.

5. The apparatus according to any one of claims
1 to 4, wherein said control unit generates said page
data management unit in response to the data reception
10 by said data reception unit.

6. The apparatus according to claim 5, wherein
said page data management unit is generated for data of
each page received by said data reception unit, and
when data including a plurality of pages are received,
15 said page data management unit manages the first and
second page data while associating respective pages
with each other.

7. The apparatus according to any one of claims
1 to 6, wherein said control unit monitors whether or
20 not a process execution unit for executing the
predetermined process issues a request for processing
the data of the first or second format, and controls
said page data management unit to manage the
availability of the request.

25 8. The apparatus according to claim 7, wherein
the first format is one of a plurality of data formats
including raw data, JBIG data, JPEG data, TIFF data,

and TEXT data, and data of the second format has a JBIG data format.

9. A data processing method for processing data for respective pages, comprising:

5 a data reception step of receiving at least data of a first format for respective pages;

 a first page data generation step of generating first page data used to manage the data of the first format;

10 a control step of monitoring a storage state of the data of the first format in the memory, and permitting a predetermined process for the data of the first format in accordance with the storage state;

 a data conversion step of converting the data of
15 the first format into data of a second format;

 a second page data generation step of generating second page data used to manage the data of the second format; and

 a page data management step of managing the data
20 of the first and second formats in first and second page data in association with each other.

10. The method according to claim 9, wherein

 in the control step, it is further determined whether or not the data received by said data reception
25 unit is the data of the second format, and

when the received data is the data of the second format, a conversion operation in the data conversion step is stopped.

11. The method according to claim 9 or 10,
5 wherein, in the control step, when it is determined that storage of the data of the first format in the memory is complete, a data conversion operation is permitted to start from the first format to the second format in the data conversion step.

10 12. The method according to claim 11, further comprising

a process permission step of monitoring completion of the conversion operation in the data conversion step and a storage state of the data of the
15 second format in the memory, and permitting a predetermined process for the data of the second format in accordance with the storage state.

13. The method according to any one of claims 9 to 12, further comprising
20 a request monitoring step of monitoring whether or not a process execution unit for executing the predetermined process issues a request for processing the data of the first or second format, and controlling the first or second page data to manage the
25 availability of the request.

14. The method according to claim 13, wherein the first format is one of a plurality of data formats

including raw data, JBIG data, JPEG data, TIFF data, and TEXT data, and data of the second format has a JBIG data format.

15 15. A computer program characterized by making a computer execute a data processing method of any one of claims 9 to 14.

16. A data processing apparatus for processing data for respective pages, comprising:

10 a data reception unit for receiving data including a plurality of pages in a plurality of kinds of formats;

a format determination unit for determining a data format for a predetermined page of the plurality of pages, and setting the data format as a reception data format;

a data conversion unit for converting data of the reception data format into data of a basic format in the data processing apparatus;

20 a page data management unit for supporting and generating page data in the reception data format and the basic format, and managing the page data in association with each other; and

a control unit for monitoring a storage state of the data of the reception data format in the memory, and permitting a predetermined process for the data of the reception data format in accordance with the storage state.

17. The apparatus according to claim 16, wherein
said page data management unit is generated for each
page with respect to the data including the plurality
of pages, and said page data management units for the
5 respective pages are associated with each other to
manage the page data of the reception data format and
the basic format.

18. The apparatus according to claim 16 or 17,
wherein said control unit monitors completion of the
10 conversion operation of said data conversion unit and a
storage state of the data of the basic format in the
memory, and permits a predetermined process for the
data of the basic format in accordance with the storage
state.

15 19. The apparatus according to any one of claims
16 to 18, wherein said control unit monitors whether or
not a process execution unit for executing the
predetermined process issues a request for processing
the data of the reception data format or the basic
20 format, and controls said page data management unit to
manage the availability of the request.